

What is claimed is:

1. A method for determining whether or not wheels are locked for use in an electric power steering control apparatus, wherein: it is determined whether an output  
5 value of a steering torque sensor for detecting steering torque is either equal to or larger than a predetermined threshold value; when the output value is either equal to or larger than the predetermined threshold value, it is determined whether the output value has continued to be  
10 either equal to or larger than the predetermined threshold value for more than a predetermined length of time; and when it is determined that the output value of the steering torque sensor has continued to be either equal to or larger than the predetermined threshold value  
15 for more than the predetermined length of time, then it is determined that a wheel is locked.

2. A method for determining whether or not wheels are locked as claimed in claim 1, wherein the determination as to whether the wheel is locked or not  
20 is made only when the motor is in an energized state.

3. A method for determining whether or not wheels are locked as claimed in claim 1, wherein the determination as to whether the wheel is locked or not is made only when the motor is in an energized state, and  
25 wherein the predetermine threshold value is varied according to the electric current value of the motor.

4. A method for determining whether or not wheels are locked as claimed in claim 3, wherein when the electric current value of the motor is larger than a  
30 predetermined value, the predetermined threshold value is increased.

5. A method for determining whether or not wheels are locked for use in an electric power steering control apparatus, wherein: when the motor is in an energized  
35 state, it is determined whether a torque sensor output value detected in the current cycle of processing is larger than a torque sensor output value detected in the

last cycle of processing, and whether the torque sensor output value detected in the current cycle of processing has continued to be larger for more than a predetermined length of time; and when it is determined that the torque sensor output value detected in the current cycle of processing has continued to be larger than the torque sensor output value detected in the last cycle of processing for more than the predetermined length of time, then it is determined that a wheel is locked.

10           6.    A method for determining whether or not wheels are locked as claimed in claim 5, wherein the determination as to whether the wheel is locked or not is made only when the electric current value of the motor is larger than a predetermined value.

15           7.    A method for determining whether or not wheels are locked as claimed in claim 5, wherein the determination as to whether the wheel is locked or not is made only when the electric current value of the motor is larger than a predetermined value and, when it is  
20   determined that the wheel is locked, the motor is de-energized.

          8.    A method for determining whether or not wheels are locked as claimed in claim 5, wherein the determination as to whether the wheel is locked or not  
25   is made only when the electric current value of the motor is larger than a predetermined value and, when it is determined that the wheel is locked, the electric current to the motor is progressively reduced.

          9.    A method for determining whether or not wheels  
30   are locked as claimed in claim 5, wherein the determination as to whether the wheel is locked or not is made only when the electric current value of the motor is larger than a predetermined value and, when it is determined that the wheel is locked, energization of the  
35   motor is inhibited, while when it is not determined that the wheel is locked, energization of the motor is permitted.

10. A method for determining whether or not wheels are locked as claimed in claim 5, wherein the determination as to whether the wheel is locked or not is made only when the electric current value of the motor is larger than a predetermined value and, when it is determined that the wheel is locked, the electric current to the motor is progressively reduced, while when it is not determined that the wheel is locked, the electric current to the motor is progressively increased.

11. A method for determining whether or not wheels are locked for use in an electric power steering control apparatus, wherein: when the motor is in an energized state, it is determined whether a torque sensor output value detected in the current cycle of processing is larger than a torque sensor output value detected in the last cycle of processing, whether the difference between the two values is greater than a predetermined difference threshold, and whether the torque sensor output value detected in the current cycle of processing has continued to be larger for more than a predetermined length of time; and when it is determined that the torque sensor output value detected in the current cycle of processing has continued to be larger than the torque sensor output value detected in the last cycle of processing for more than the predetermined length of time, with the difference between the two values being greater than the predetermined difference threshold, then it is determined that a wheel is locked.

12. A method for determining whether or not wheels are locked as claimed in claim 11, wherein the difference threshold value is varied according to the electric current value of the motor.

13. A method for determining whether or not wheels are locked as claimed in claim 11, wherein when the electric current value of the motor is larger than a predetermined value, the difference threshold value is increased.